

ILLINOIS POLLUTION CONTROL BOARD
November 29, 1979

CATERPILLAR TRACTOR CO.,)	
)	
Petitioner,)	
)	
v.)	PCB 79-188
)	<u>Consolidated</u>
ENVIRONMENTAL PROTECTION AGENCY,)	
)	
Respondent.)	

RICHARD J. KISSEL AND ROY M. HARSCH, MARTIN, CRAIG, CHESTER AND SONNENSCHNEIN, AND KENNETH F. VANDER LEEST APPEARED ON BEHALF OF PETITIONER.
NANCY J. BENNETT AND WILLIAM E. BLAKNEY, ASSISTANT ATTORNEYS GENERAL, AND STEPHEN B. CHERRY, APPEARED ON BEHALF OF RESPONDENT.

OPINION AND ORDER OF THE BOARD (by Mr. Goodman):

On September 5 1979 Caterpillar Tractor Co. (Caterpillar) filed four Petitions for Variance for four different facilities owned and operated by Caterpillar. The four petitions were docketed as follows: PCB 79-188, East Peoria Plant; PCB 79-189, Joliet Plant; PCB 79-190, Mapleton Plant; and PCB 79-191, Mossville Plant. Pursuant to Caterpillar's uncontested Motion for Consolidation filed October 17, 1979, the Board on November 1, 1979 consolidated all four proceedings under the designation PCB 79-188, Consolidated. Hearing was held on the consolidated matter on November 1, 1979. The Board has received no public comment concerning these petitions.

Caterpillar's petitions seek variance from Rule 203(g)(1) for particulate emissions from seventeen industrial boilers equipped with flue gas desulfurization systems (FGD) at Caterpillar's East Peoria, Joliet, Mapleton and Mossville plants. Caterpillar requests these variances while the Board is proceeding with Caterpillar's regulatory petition docketed R79-11 which seeks the adoption of a particulate emission limitation of 0.25 lbs./million Btu for coal-fired industrial boilers equipped with flue gas desulfurization systems.

EAST PEORIA PLANT (PCB 79-188)

Caterpillar's facility at East Peoria manufactures approx-

imately 400,000 tons of track-type equipment, including tractors, loaders, pipelayers and power transmission equipment and components. Approximately 16,000 people are employed at the East Peoria plant and an adjacent Caterpillar data processing facility. The plant is located within the Peoria Major Metropolitan Area as defined in Rule 201 of Chapter 2, the Board's Air Pollution Control Regulations. The facility presently contains four coal-fired spreader stoker industrial boilers available for operation, including two which are "existing" boilers and two that are considered new boilers within the meaning of the Board's regulations. All the boilers are equipped with multi-clone dry particulate dust collectors which are used to collect particulate matter from combustion products of the approximately 13,700 tons of coal burned each month during the heating season. The coal burned is Illinois coal and has a heating value of approximately 10,500 Btu and an ash content of 10%.

In the early 1970's, Caterpillar determined that, if it was to continue to use Illinois coal, it would be necessary to install FGD systems on their boilers. After certain developmental work, Caterpillar chose the regenerative double alkali system as the method to remove both sulfur dioxide and particulate matter from the boiler emissions. Caterpillar alleges that this type of FGD was and is still an incompletely developed, innovative technology which results in substantial technical difficulties in its construction and operation. Caterpillar was assured by their contractor that an FGD system could be designed that would comply with particulate requirements. After a considerable amount of development work including redesigning of certain equipment, Caterpillar is unable to operate the existing boilers at full capacity within the particulate requirements of the Board's regulations. Caterpillar and its consultants are presently investigating methods by which the existing equipment might be upgraded. In addition Caterpillar is researching a number of problems with respect to the interaction of a spreader stoker boiler installation with an FGD system. Caterpillar alleges that it is unaware of any FGD system which will reliably achieve a particulate emission rate of less than 0.1556 lbs./million Btu at rated boiler capacity when retrofitted on existing installations or at a rate of less than 0.10 lbs./million Btu at rated boiler capacity when installed on new boilers, the limits specified in the Board's rules. Caterpillar has spent approximately \$5.5 million on the FGD installation at the plant. FGD operational costs are approximately \$10/ton of coal burned.

Caterpillar alleges that it is not causing a violation of either the primary or secondary ambient air quality standards by operating the four boilers and states that it would be an arbitrary and unreasonable hardship to deny the requested variance.

In its Recommendation the Agency notes that Caterpillar was the first corporation in Illinois and one of the first corporations in the nation to install an FGD system. At the time it was installed, the FGD system was considered to be the best control technology available. According to an ambient air quality maintenance area (AQMA) study for the Peoria area published in 1978, the Agency observes, such area is non-attainment for particulate emissions. Based upon a summary of the results of a dispersion modeling analysis which Caterpillar conducted for its East Peoria facility, the Agency states that there is no significant difference between the contribution from the facility under existing Rule 203(g) and that which the facility would contribute at the level requested by Caterpillar, 0.25 lbs /million Btu. The Agency proposes that the requested variance be granted in this case under certain conditions.

JOLIET PLANT (PCB 79-189)

Caterpillar's facility in Joliet manufactures about 170,000 tons of product annually, which product includes scrapers, bulldozers, rippers and hydraulic and hydrostatic controls and components. The plant employs approximately 7,000 people and is located within Joliet Township in Will County, which county is within the Chicago Major Metropolitan Area as defined in Rule 201 of Chapter 2 of the Board's regulations. Caterpillar has spent approximately \$4.2 million on the FGD installation at the plant. The facts concerning the East Peoria plant, supra, are applicable to the Joliet plant and will not be repeated.

In its Recommendation, the Agency states that the Joliet facility is located in a non-attainment area for particulate matter. Other than comments on particular individual characteristics of the facility, the Agency recommendation for the Joliet plant is the same as that for East Peoria, i.e., that variance be granted under certain conditions.

MAPLETON PLANT (PCB 79-190)

The Caterpillar facility at Mapleton produces 155 000 tons of grey iron castings annually for use in engine blocks, engine heads, exhaust manifolds, etc. Approximately 3,900 people are employed at the Mapleton plant, which is located within Hollis Township of Peoria County, which county is within the Peoria Major Metropolitan Area as defined in Rule 201 of Chapter 2 of the Board's regulations. Caterpillar has spent approximately \$6.7 million on the FGD installation at the plant. For the purpose of this variance, the relevant factors concerning the equipment and operation at Mapleton are the same as those expressed by the Board regarding the East Peoria plant, supra.

The Agency's Recommendation for the Mapleton plant cites much the same material contained in its recommendation for East Peoria plant; its recommendation is the same, to grant variance under certain conditions.

MOSSVILLE PLANT (PCB 79-191)

The Mossville facility is located north of Peoria on the west side of the Illinois River and employs approximately 10,000 people at the plant and at Caterpillar's nearby technical center. Caterpillar manufactures in excess of 60,000 tons of product annually, including deisel engines, natural gas engines, hydraulic hose, and marine transmissions. The plant is located within Medina Township in Peoria County, which county is within the Peoria Major Metropolitan Area as defined in Rule 201 of Chapter 2 of the Board's regulations. Caterpillar has spent approximately \$6.2 million on the FGD installation at the plant. The relevant facts are the same as those expressed regarding the East Peoria plant, supra.

The Agency Recommendation proposes that variance be granted under certain conditions and its comments are much the same as those regarding the other three facilities, supra.

CONSIDERATION

Although there are some differences with respect to the numbers and types of boilers involved in the four variance petitions the equipment and the problems encountered therein are quite similar. The procedures followed by Caterpillar in order to comply with the Board's regulations and the costs incurred at each installation are similar.

The Board finds that Caterpillar had initiated a plan of compliance at a very early date and that it has pursued this plan in good faith. Considering the time and the approximately \$22.6 million expended by Caterpillar at all four locations in an attempt to comply with the Board's regulations and the minor difference between what the present regulation demands for compliance and that which Caterpillar is able to achieve, the Board finds that it would constitute an arbitrary and unreasonable hardship to deny any of the variances. In granting the variances, the Board is cognizant of the regulatory proceeding presently pending (R79-11), in which Caterpillar would have the Board adopt a particulate emission limitation of 0.25 lbs./million Btu on a routine and day-to-day basis for coal-fired, spreader stoker industrial boilers equipped with FGD systems. The Board therefore grants the variances until December 31, 1982 or until final action is taken with respect to R79-11, whichever occurs first.

The Agency has proposed that separate limitations be imposed on the individual boilers; whereas, Caterpillar

requests an across-the-board limitation of 0.25 lbs./million Btu for all of the boilers. The Board finds that an interim limitation of 0.25 lbs./million Btu closely approximates the separate interim limitations proposed by the Agency. The Board will depend upon the conditions it imposes herein upon the variances and upon Caterpillar's good judgment to ensure that particulate emissions are not willfully increased at any of the facilities beyond the amount emitted during normal operation.

This Opinion constitutes the findings of fact and conclusions of law of the Board in this matter.

ORDER

It is the Order of the Pollution Control Board that Caterpillar Tractor Co. be granted variance from Rules 203(g)(1)(C)(i) and 203(g)(1)(B) of Chapter 2 of the Illinois Pollution Control Board Rules and Regulations for the coal-fired boilers located at Caterpillar's facilities located in East Peoria, Joliet, Mapleton, and Mossville, Illinois until December 31, 1982 or until final Board action in R79-11, whichever occurs first, under certain conditions:

- A) Caterpillar Tractor Co. shall operate its scrubbers at all times during boiler use except when applicable permit conditions allow otherwise.
- B) Caterpillar Tractor Co. shall continue its efforts to reduce particulate emissions from its facilities and to minimize the impact of its emissions on the air quality. Such efforts shall include at a minimum, the following:
 - 1) Reviewing procedures for the more efficient operation of existing control equipment.
 - 2) Studying alternatives to fly ash reinjection.
 - 3) Reviewing all relevant studies or actions now planned or undertaken by it relative to particulate emissions from the boilers.
- C) Caterpillar Tractor Co. shall submit to the Agency's Division of Air Pollution Control, Division Manager's Office, within six months of the grant of this variance and every six months thereafter, a report outlining the status of its efforts to reduce particulate emissions and to minimize the impact of its emission on the air quality. The Agency may request one summary report during the duration of this variance and Caterpillar Tractor Co. shall

submit said report within 60 days of receipt of such request.

- D) Particulate emissions from Caterpillar Tractor Co.'s facilities shall not exceed an interim standard of 0.25 lbs./million Btu.
- E) Caterpillar Tractor Co., within 45 days of the Board Order herein, shall execute and forward to the Illinois Environmental Protection Agency, Division of Air Pollution Control, 2200 Churchill Road, Springfield, Illinois 62706 a Certification of Acceptance and Agreement to be bound to all terms and conditions of this variance. The 45 day period shall be held in abeyance for any period during which this matter is appealed. The form of said Certification shall be as follows:

CERTIFICATION

I (We), _____, having read and fully understanding the Order of the Pollution Control Board in PCB 79-188, Consolidated, hereby accept said Order and agree to be bound by all terms and conditions thereof.

SIGNED _____

TITLE _____

DATE _____

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 29th day of November, 1979 by a vote of 4-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board